

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Andreas Eipper et al.

Application No.: 10/587,997

Confirmation No.: 4348

Filed: August 1, 2006

Art Unit: 1796

For: FLUID POLYESTER MOULDING MASSES

Examiner: D. L. Lee

**COMMUNICATION**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Further to the Appeal Brief filed June 20, 2011 and the Reply Brief filed September 26, 2011, please find enclosed the Decisions, Opinions and Transcripts which were issued in U.S. Serial No. 11/813,833 (Appeal No. 2011-001420) and U.S. Serial No. 11/996,489 (Appeal No. 2011-001806), which may directly affect or be directly affected by or have a bearing on, the Board's decision in this appeal

Applicants believe no fee is due with this paper. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00334-US1 from which the undersigned is authorized to draw.

Dated: February 28, 2011

Respectfully submitted,

Electronic signature: /Burton A. Amernick/  
Burton A. Amernick  
Registration No.: 24,852  
CONNOLLY BOVE LODGE & HUTZ LLP  
1875 Eye Street, NW  
Suite 1100  
Washington, DC 20006  
(202) 331-7111  
(202) 293-6229 (Fax)  
Attorney for Applicant



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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|--|-------------|----------------------|--------------------------|------------------------|
| 11/813,833   | 07/12/2007  | Dietrich Scherzer    | 12810-00509-US           | 7670                   |
| 23416 7590 02/16/2012<br>CONNOLLY BOVE LODGE & HUTZ, LLP<br>P O BOX 2207<br>WILMINGTON, DE 19899 |             |                      | EXAMINER<br>LEE, DORIS L |                        |
|  |             |                      | ART UNIT<br>1764         | PAPER NUMBER           |
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The time period for reply, if any, is set in the attached communication.

FEB 21 2012

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DIETRICH SCHERZER, BERND BRUCHMANN,  
ANDREAS EIPPER, JEAN-FRANCOIS STUMBE, CARSTEN WEISS,  
MICHAELA LIESE, and MARK VOELKEL

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Appeal 2011-001420  
Application 11/813,833  
Technology Center 1700

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Before CATHERINE Q. TIMM, BEVERLY A. FRANKLIN, and  
RAE LYNN P. GUEST, *Administrative Patent Judges*.

GUEST, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision to reject claims 14-25 under 35 U.S.C. § 103(a) as being unpatentable over Scherzer (US 2006/0142442 A1; published June 29, 2006) in view of Brenner (US 6,528,612 B1; issued March 4, 2003) and Dvornic

(US 2002/0161113 A1; published October 31, 2002).<sup>1</sup> We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held January 12, 2012.<sup>2</sup>

We AFFIRM.

Appellants' invention relates to a molding composition comprising a thermoplastic polymer, a highly branched or hyperbranched polycarbonate or polyester, a naturally occurring oil or fatty acid ester, and other additives (Spec. 1:5-16). The molding composition has good flowability characteristics and mechanical properties and does not exude or form mold deposits (Spec. 2:32-35). Claim 14 is illustrative:

14. A thermoplastic molding composition, comprising

A) from 10 to 98.9 % by weight of at least one thermoplastic polyester;

B) from 0.01 to 50 % by weight of

B1) at least one highly branched or hyperbranched polycarbonate; or

B2) at least one highly branched or hyperbranched polyester of  $A_xB_y$  type, wherein  $x$  is at least 1.1 and  $y$  is at least 2.1; or

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<sup>1</sup> The Examiner also rejects claims 14-25 under the judicially-created doctrine of obviousness-type double patenting over the claims of ten different pending U.S. applications in view of Scherzer. Appellants do not traverse the merits of the double patenting rejections (*see generally* App. Br.). Appellants have demonstrated an intent to submit the necessary papers to overcome the double patenting rejections (*see* Transcript 2:22-25), and, in fact, appear to have submitted a terminal disclaimer on September 21, 2010. The Examiner has not yet withdrawn the rejections in view of the terminal disclaimer. Thus, we summarily affirm the double patenting rejections as Appellants have waived any appeal of the rejections and direct the Examiner to address the submitted terminal disclaimer in due course.

<sup>2</sup> We refer to the transcript of the oral hearing herein as "Transcript."

- B3) mixtures of B1) and B2);
- C) from 0.1 to 10 % by weight of
  - C1) at least one epoxidized naturally occurring oil;
  - C2) at least one epoxidized naturally occurring fatty acid ester; or
  - C3) mixtures of C1) and C2); and
- D) from 0 to 60 % by weight of other additives;

wherein the total of the percentages by weight of components A), B), C), and D) is equal to 100 %.

Appellants have not argued any particular claim on appeal separately from the others (*see* App. Br. 3-7). Accordingly, all the appealed claims stand or fall together with representative claim 14. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## II. DISCUSSION

### ISSUE ON APPEAL

The Examiner relies on the teachings of Scherzer and Brenner as evidence that a molding composition as claimed having the claimed highly branched or hyperbranched polycarbonate (B1) would have been obvious (Ans. 4-5). The Examiner relies on the teachings of Scherzer and Dvornic as evidence that a molding composition as claimed having the claimed highly branched or hyperbranched polyester (B2) would have been obvious (Ans. 4-5).

Claim 14 recites that the molding composition comprises B1) polymers as claimed, B2) polymers as claimed, or mixtures thereof but does not require both polymers to be present. Accordingly, the claim would be rendered obvious using either B1) or B2) in a molding composition.

Appellants agree with this interpretation of claim 1 (Transcript 10:11-23). Since the Examiner need not have relied on both Brenner and Dvornic in rejecting claim 14, we focus our analysis only on the combination of Scherzer and Brenner as evidence that a molding composition as claimed having the claimed highly branched or hyperbranched polycarbonate (B1) would have been obvious.

Accordingly, the dispositive issue on appeal arising from the contentions of Appellants and the Examiner is: does the evidence support the Appellants' view that the Examiner erred in concluding that the claimed molding composition having a highly branched or hyperbranched polycarbonate would have been obvious to one of ordinary skill in the art based on the teachings of Scherzer and Brenner? We answer this question in the negative.

#### ANALYSIS

Appellants contend that one of ordinary skill in the art would not have considered the polycondensates taught by Brenner, despite being identified in Brenner as "highly branched" (Brenner, col. 1, ll.15-16), to be the "highly branched or hyperbranched polycarbonates" recited in the claims (App. Br. 6; Transcript 4:14-15). According to Appellants, the hyperbranched polycondensates taught by Brenner are structurally similar to dendrimers, which Appellants contend are distinguished in Appellants' Specification (App. Br. 6). Appellants elaborated on this position in the oral hearing in stating that Brenner teaches "using dendrimers in order to get their materials. That is a key part of the invention in Brenner" (Transcript 4:24-25). Appellants point out that "the objective [of Brenner] is there as to minimize any differences in various molecular weights of change on those type[s] of

materials, those would be similar to the dendrimers that are present in the prior art” (Transcript 5:1-5). Appellants reference page 1 of the Specification as allegedly discussing the “problems when you do add dendrimers to thermoplastic polyesters,” including poor solubility and high glass transition temperatures (Transcript 5:6-12).

We are not persuaded that Appellants’ Specification has sufficiently defined a “highly branched or hyperbranched polycarbonate” to distinguish over the polycondensates described by Brenner.

During examination, “claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (*quoting In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)).

Appellants’ Specification differentiates between “[d]endritic polymers having a perfectly symmetrical structure, known as dendrimers” and “highly branched or hyperbranched polymers” that “have linear polymer chains and unequal polymer branches” only in terms of the symmetry of their structure and ease of manufacture (Spec. 1:29-2:3; Spec. 8:11-19; *see also* Transcript 6:8-16). Contrary to Appellants’ arguments, Appellants’ Specification shows that dendrimers “provide[] advantageous polymer properties” including “surprisingly low viscosity” and “high reactivity, due to the large number of functional groups on the surface of the sphere” (Spec. 1:35-37). The only problems Appellants identify with respect to using dendrimers is a complicated preparation process which limits production to a laboratory



scale, while highly branched and hyperbranched polymers can be prepared using industrial processes (Spec. 1:37-2:1).

Appellants' Specification describes that "hyperbranched polymers" can be prepared in two ways, namely as the  $AB_2$  type, i.e., using a trifunctional monomer having one reactive group A for each two reactive groups B, and as  $A_x+B_y$  type, i.e., the reaction of a difunctional monomer with a trifunctional monomer (Spec. 2:4-13). Appellants' Specification describes problems known to occur with "dendrimeric  $AB_2$  type polyester," in which a polyhydric alcohol reacts with dimethylolpropionic acid, and with "the incorporation of branching agents of this type by means of compounding and solid-phase post-condensation" processes (Spec. 2:15-27). However, Appellants' Specification identifies these polymers as "dendrimeric" and not "highly branched or hyperbranched polymers." In other words, they have a perfectly symmetrical structure. Appellants' Specification teaches a preferred process for obtaining a polycarbonate of component B1), involving using a carbonate or phosgene and an alcohol having at least 3 OH groups (Spec. 9, ll. 8-30). However, the polycarbonates of the invention do not appear to be limited to this process in that the Specification also defines a carbonate and diol condensate reaction as part of the invention (Spec. 12:18-23 and 14:1-4).

As pointed out by the Examiner (Ans. 20), claim 14 recites only the use of "highly branched or hyperbranched polycarbonates" and does not limit the polycarbonates to any particular type or to polycarbonates made by any particular process. While we read the claims in light of the Specification to determine what one of ordinary skill in the art would consider the broadest reasonable interpretation, "limitations are not to be

read into the claims from the specification.” *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). “It is the applicants’ burden to precisely define the invention, not the PTO’s.” *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997).

Further, Appellants present no evidence to demonstrate that the polycarbonates taught by Brenner have a perfectly symmetrical structure so as to be characterized as a “dendritic polymer” rather than the non-symmetrical structure of a “highly branched or hyperbranched polymer.”

Brenner teaches “highly branched polycondensates [particularly polycarbonates] which can be obtained by polycondensation of monomers capable of polycondensation [particularly a bisphenol and a carboxylic diester] in the presence of branching agents” (Brenner, col. 1, ll. 61-67 and col. 4, ll. 37-44). The branching agents may be polymers, oligomers, or “dendritic polymers” (Brenner, col. 1, ll. 61-67). Brenner specifically defines “dendritic polymers” as including both “so-called highly branched polymers and so-called dendrimers” (Brenner, col. 2, ll. 30-32). As with Appellants’ Specification, Brenner describes “dendrimeric polymers” as having a “globular, perfectly branched macromolecular structure,” but distinguishes “dendrimeric polymers” from “highly branched polymers” (*see* Brenner, col. 4, ll. 30-37). Thus, despite Appellants’ assertion, Brenner is not limited to using only dendrimers as branching agents. Moreover, Appellants have not presented any evidence that the resulting polycarbonate would have a perfectly symmetrical structure of a dendritic polymer, even if a dendrimer was used as a branching agent.

Appellants also contend that “the Office has not shown why one skilled in the art would consider modifying Scherzer with [Brenner], much less having been led to do so” (App. Br. 6).

The Examiner indicates that “Brenner teaches a highly branched polycarbonate which has have [sic] good properties during both extrusion and injection molding . . . [and] can be blended with other thermoplastic polymers” (Ans. 4). The Examiner thus concludes that one of ordinary skill in the art would have added the highly branched polycarbonate of Brenner to the composition of Scherzer for the expected benefit of controlling and changing the ease of processability (Ans. 5). We find the Examiner has provided a sufficient rationale based on the teachings of the prior art as to why one skilled in the art would have arrived at the claimed invention. Appellants present no arguments for us to conclude that the Examiner’s position is untenable.

Appellants also contend that the improvements in flowability of the present invention are not achieved by the references of record, citing pages 39 to 40 of Appellants’ Specification (App. Br. 7). However, Appellants have not claimed any particular measured flowability nor any improvement in flowability and, thus, cannot distinguish the claim from the prior art on this basis. It is the claims that define the invention and, therefore, the absence in the prior art of subject matter not included in the claims cannot be a basis for patentability. See *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (“[A]ppellant’s arguments fail from the outset because . . . they are not based on limitations appearing in the claims.”). We note that Appellants have made no assertion that any improvement in flowability

demonstrated by the data in Appellants' Specification would have been unexpected over the prior art of record to overcome the Examiner's conclusion of obviousness (*see generally* App. Br.).

The weight of the evidence taken as a whole supports the Examiner's conclusion of obviousness under the law.

### III. CONCLUSION

On the record before us and for the reasons discussed above, we sustain the rejection maintained by the Examiner.

### IV. DECISION

We affirm the Examiner's decision.

### V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

### AFFIRMED

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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11/813,833

07/12/2007

Dietrich Scherzer

12810-00509-US

7670

23416 7590 02/15/2012  
CONNOLLY BOVE LODGE & HUTZ, LLP  
P O BOX 2207  
WILMINGTON, DE 19899

EXAMINER

LEE, DORIS L

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1 RECORD OF ORAL HEARING

2  
3 UNITED STATES PATENT AND TRADEMARK OFFICE

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5  
6 BEFORE THE BOARD OF PATENT APPEALS  
7 AND INTERFERENCES  
8  
9

10 *Ex parte* DIETRICH SCHERZER, BERND BRUCHMANN, ANDREAS  
11 EIPPER, JEAN-FRANCOIS STUMBE, CARSTEN WEISS, MICHAELA  
12 LIESE, and MARK VOLKEL  
13  
14

15 Appeal 2011-001420  
16 Application 11/813,833  
17 Technology Center 1700  
18  
19

20 Oral Hearing Held: January 12, 2012  
21  
22

23 Before CATHERINE Q. TIMM, BEVERLY A. FRANKLIN (video), and  
24 RAE LYNN P. GUEST, *Administrative Patent Judges*.  
25

26 APPEARANCES:

27  
28 ON BEHALF OF THE APPELLANT:  
29

30 BURTON A. AMERNICK, ESQUIRE  
31 Connolly, Bove, Lodge & Hutz, LLP  
32 1875 Eye Street, N.W.  
33 Suite 1100  
34 Washington, D.C. 20006  
35 (202) 331-7111  
36  
37  
38

1           The above-entitled matter came on for hearing on Thursday, January  
2   12, 2012, commencing at 3:24 p.m., at the U.S. Patent and Trademark  
3   Office, 600 Dulany Street, Alexandria, Virginia, before Paula Lowery,  
4   Notary Public.

5                               P R O C E E D I N G S

6                               - - - - -

7           JUDGE TIMM: Counselor, you have 20 minutes to present your  
8   case. We have one of our judges -- Judge Franklin -- who's here  
9   electronically with us today. She'll be able to see and hear you.

10          MR. AMERNICK: Thank you.

11          In the present case, the invention is related to thermoplastic polyester  
12   compositions. The compositions contain a thermoplastic polyester and then  
13   a second component, which is actually where we deviate from the prior art,  
14   that second component being a highly-branched or hyper-branched  
15   polycarbonate and/or a highly-branched or hyper-branched polyester of a  
16   particular type.

17          The third component is a hypoxidized natural occurring oil, or  
18   hypoxidized natural fatty acid ester. There can be auxiliary agents up to a  
19   particular amount. All those ingredients are recited in particular relative  
20   amounts.

21          The improvements achieved by the invention relate to the fact that we  
22   get good flowability of the compositions, which is very important for  
23   molding compositions, in conjunction with maintaining good mechanical  
24   properties.

1           Various attempts in the final art, certain additives, result in maybe  
2   good flowability but at the degradation of the mechanical properties. So  
3   that's an important, real world improvement and an important aspect of the  
4   invention.

5           The issues in the case: there were issues with respect to obviousness-  
6   type double patenting. Those have been taken care of. We have filed  
7   terminal disclaimers after the Examiner's answer. It seems they're entered,  
8   and that should really be off the table and taken care of.

9           The remaining issue in the case is whether or not the claims are  
10   obvious under Section 103 of the statute. The rejection is based upon three  
11   references.

12           There's a primary reference which is a WO publication 2004-069912.  
13   We can refer to -- at least when I review that, I refer to the counterpart U.S.  
14   Patent Application --

15           JUDGE TIMM: The Examiner is doing the same, correct? The  
16   Examiner is also referring to the counterpart?

17           MR. AMERNICK: Yes.

18           JUDGE TIMM: All right.

19           JUDGE TIMM: The WO is in German. I'm a little better in English.

20           The counterpart U.S. Patent Application Publications, again, 2006-  
21   0142442 to Scherzer.

22           Incidentally, that is owned by BASF, who happens to be the assignee  
23   of this application; and there is even some overlap inventors. So that's the  
24   primary reference.



1       There are two secondary references relied upon. The first of which is  
2       U.S. Patent 6,528,612 to Brenner. Again, curiously enough, that's a BASF  
3       patent.

4       Then there's another reference which is a U.S. Patent Application  
5       publication 2002-061113 to Dvornik.

6       With respect to how we deviate from the prior art, primary reference  
7       Scherzer, and as appreciated by the Examiner, fails to disclose or describe  
8       the second component of the composition which I mentioned. The highly-  
9       branched or hyper-branched polyester and/or similar type of polycarbonate.

10       The primary reference is really concerned with improving resistance  
11       to hydrolysis, which is a problem with respect to molding compositions.  
12       Some detrimental properties there.

13       There's no real discussion there or concern about viscosity aspects. Of  
14       course they're concerned about mechanical properties.

15       Even when you look at the examples there, when they add their  
16       additive, which happens to be the hypoxidized material which is our third  
17       component, compared to not having it in there they're actually worse with  
18       respect to the viscosity recitations characteristics of the composition.

19       Secondary references are relied upon to fill that gap -- that hole -- in  
20       the primary reference. The first of which is the Brenner reference. That's  
21       basically being relied upon to show a highly-branched or hyper-branched  
22       polycarbonate.

23       The materials, however, in Brenner are not really what the prior art  
24       deems to be hyper-branched or highly-branched polycarbonates. What the  
25       art really considers -- even though they use that term in the patent itself,

1 what they're really looking at are materials that are more similar to these  
2 dendritic polymers which we refer to in the specification as prior art and why  
3 we want to deviate from those type of materials.

4 We also speak about that in the specification when we talk about the  
5 highly-branched or hyper-branched polymers that we're using. The art --  
6 and there are publications that talk about that -- do distinguish between those  
7 two.

8 If you look at Brenner, they form their materials -- and there are  
9 branch materials, but they're using dendrimers in order to get their materials.  
10 That is a key part of the invention in Brenner.

11 They can also use some other types of polymeric branching materials,  
12 but it seems when you look at what the objective is there as to minimize any  
13 differences in various molecular weights of change on those type of  
14 materials, those would be similar to the dendrimers that are present in the  
15 prior art.

16 There are problems when you do add dendrimers to thermoplastic  
17 polyesters. We discuss those on page 1 of the specification. Some of those  
18 problems involve poor solubility with polyesters, high glass transition  
19 temperatures, which translates to the fact you would need much higher  
20 temperatures to carry out any type of molding process in order to shape the  
21 materials.

22 Again, that is a detriment.

23 That's really Brenner, and Brenner doesn't really suggest at  
24 all -- they do talk about viscosity, but there's no idea there that if they added  
25 those materials, even though we contend they're different than the materials

1 we have, but if they added them to a polyester as a component that, in fact,  
2 you would still be able to achieve this combination of improved fluidity,  
3 along with maintaining good mechanical characteristics, good mechanical  
4 properties.

5 JUDGE TIMM: If I hear your argument correctly here, it's the words  
6 highly-branched or hyper-branched in your claim that distinguish over the  
7 Brenner reference?

8 MR. AMERNICK: Right.

9 JUDGE TIMM: Okay.

10 MR. AMERNICK: That's correct.

11 JUDGE GUEST: Is there somewhere where those terms are defined  
12 that would distinguish them from what's taught by Brenner? Is it a process  
13 of making it? What is it?

14 MR. AMERNICK: Well, we do go into great detail in the  
15 specification of how we make -- we refer to prior publications in the  
16 specification. At page 8 we start discussing it, then page 11, page 17. It  
17 goes on and on talking about it.

18 If you'll note in our specification, as well as other publications that we  
19 make reference to, that distinguish these types of materials, they're really  
20 using monomeric materials, certain polyfunctional monomeric materials,  
21 particular conditions in order to get this branching.

22 Using this term highly-branched or hyper-branched, you're really  
23 talking about non-uniformity in both the structure and in the chain length of  
24 the branching. That's very distinct from the dendrimers where it's more a

1 spherical type of configuration where the molecular weights of the various  
2 chains are very, very similar.

3 In fact, the whole idea is to be exactly the same -- what you refer to as  
4 poly dispersability as being one as far as prior art materials.

5 So we do define it pretty well in the spec. The art is well aware of  
6 when you use those terms what we're really talking about.

7 JUDGE GUEST: But your claim only states at least one highly-  
8 branched or hyper-branched polycarbonate. Your claim doesn't have any  
9 other claim limitations as to what type of branch polycarbonate that might  
10 be.

11 MR. AMERNICK: You're correct.

12 JUDGE GUEST: Dendrimer or linear or uniform.

13 MR. AMERNICK: You're correct, and I think the reliance had been,  
14 basically, what the art-- you know, implicitly and intrinsically would  
15 understand it to be.

16 That hadn't been -- that's an interesting point you bring up, but it's  
17 nothing that we had an issue with previously with the Examiner. I think the  
18 Examiner seems to have understood or taken the definition that we're  
19 speaking about.

20 JUDGE GUEST: Well, in the response to arguments the Examiner  
21 actually says what I just said, that you don't define it in any way. So the  
22 polycarbonates of Brenner read on the claim.

23 MR. AMERNICK: Right, the Examiner took that, and that's why I'm  
24 referring back to in the details of Brenner that you look at it, and it really  
25 defines something that's going to be more like a dendrimer.

1 JUDGE GUEST: Do you raise any of this in your Brief?

2 MR. AMERNICK: In the Brief -- it was brought up, but not in great  
3 detail that I'm bringing up now. It was mentioned that they're more like the  
4 dendrimers. They refer to some portions of Brenner.

5 I don't know if they really referred to as much detail as I've discussed.

6 JUDGE TIMM: You do have a disclosure on page 6 of your Brief  
7 which talks about the hyper-branched condensates or polycondensates which  
8 are similar to those discussed in the specification at page 1, lines 15-21.

9 MR. AMERNICK: Right.

10 JUDGE TIMM: Those are different than the hyper-branch  
11 polycarbonates --

12 MR. AMERNICK: Correct.

13 JUDGE TIMM: --that are Component B of the claim?

14 MR. AMERNICK: Yeah. Admittedly, you know, maybe we should  
15 have gone into more detail on that aspect in the Brief.

16 For instance, when asked one thing that Brenner even says they're  
17 trying to get away with, and this is in Column 1, Line 34, they talk about  
18 some problems with other type of branch polycarbonates.

19 They say they have a relatively broad molecular weight distribution,  
20 which is actually the type of thing we have here when you're talking about  
21 highly-branched or hyper-branched.

22 Because you have high polydispersability, and they don't want that  
23 type of thing. So taking the fact that their examples within the invention,  
24 examples 1 to 3, use a dendritic branching agent; and they compare it to  
25 example 4, which doesn't have it.

1           The whole idea is they get much better processing characteristics  
2       which they show in their Table 1 under the S&B values there.

3           JUDGE GUEST: What is the dendritic branching agent of Example  
4       1?

5           MR. AMERNICK: I'm sorry?

6           JUDGE GUEST: What is the dendritic branching agent in Example  
7       1?

8           MR. AMERNICK: In those examples? That's a polyethylene -- I'm  
9       sorry a polyester with certain -- they talk about the end hydroxyl group.  
10      That PE 3a OH.

11          The other reference, Dvornik, was relied upon for the alternative  
12      feature in the broadest claim of this hyper-branch or highly-branched  
13      polyester. Dvornik actually does show highly-branched or hyper-branched  
14      polyesters.

15          In fact, just to mention, I distinguish those from the dendrimers as we  
16      just spoke about.

17          The reason that is not combinable with the primary reference is, first  
18      of all, there's no suggestion there of using it as an additive to another  
19      polymeric material. There's no suggestion there that if you did so you would  
20      have this combination.

21          Again, good fluidity along with the excellent mechanical properties.  
22      Furthermore, not even certain that Dvornik is even relevant to molding  
23      compositions because what they're talking about is use of these materials  
24      with the spec to coating compositions. That's their main objective there.

1           Certainly a coating composition characteristics as compared to  
2 molding composition, there's some distinct features there.

3           The one that comes to my mind is that you want a coating  
4 composition that will adhere to another substrate and stay there. The  
5 molding composition you want to have it easily processed and easily  
6 removed from a mold surface without leaving any substantial residue there.  
7 In fact, that's one of the advantages that we speak about in the present  
8 invention. The compositions within the present invention do not leave a  
9 residue on a mold. Likewise, avoid exudation of any additives that are in the  
10 composition.

11           The adherence as contrasted to removability are certainly two distinct  
12 characteristics. One you would want those with a coating composition and  
13 would not appreciate those if you're dealing with multiple molding  
14 compositions.

15           So I don't think there's any real suggestion there to pluck out the  
16 material in Dvornik and put it into the primary reference.

17           In addition, the polyester mentioned in Dvornik is only one of a  
18 number of potentially highly-branched polymeric materials. They talk about  
19 polyureas, which seem to be the preferred one, because all the specific  
20 examples there except for one is actually a polyurea.

21           The other example is a polyamino amine compound. They talk about  
22 polyurethanes, and they talk about polyimids. You're not even sure that  
23 you're directed even to the polyester that's potentially made according to  
24 Dvornik. There's nothing to even lead you to take that particular material.

1           So, there again, I think it's pretty far afield. In fact, I'll refer to one  
2 comment --

3           JUDGE GUEST: I want to interrupt you for a second. Your claim  
4 has that you can either have the highly-branched or hyper-branched  
5 polycarbonate or the hyper-branched or highly-branched polyester.

6           MR. AMERNICK: Correct.

7           JUDGE GUEST: So the Examiner really doesn't need to use both the  
8 Brenner and the Dvornik. He could rely on one or the other and still --

9           MR. AMERNICK: Yeah, he --

10          JUDGE GUEST: Let me phrase that differently. He can find prior art  
11 that references only your hyper-branched polycarbonate or your hyper-  
12 branched polyester and meet the claim limitation. He does not need to show  
13 both. Correct?

14          MR. AMERNICK: As far as the claim, you're correct. Because it's in  
15 the alternative.

16          I think there are some dependent claims in the case where we drill  
17 down on -- speaking about the polycarbonate. Some I believe we drill down  
18 on speaking about the polyester.

19          So in those claims maybe you would need the additional reference,  
20 one or the other. The claims that specifically speak about the polycarbonates  
21 -- I guess Claims 15, 16, 17 -- they have more detail about it, Claims 18, and  
22 then Claims 19 through 23 have some detail about the polyester.

23          So in those you might really need to look at both separately. But you  
24 are correct, as far as the claim is concerned, you really only need -- if you  
25 were to have one of those. That's absolutely right.



1 JUDGE GUEST: Going back to the Brenner case for a second, you  
2 mentioned there wasn't any reason to combine the teachings of Brenner into  
3 the composition -- what you had said, I believe, is that you wouldn't  
4 necessarily get the results you would expect in combining the references:  
5 the Brenner and Scherzer reference.

6 But the Brenner reference teaches you can introduce this to molding  
7 compositions for forming molded articles. So it clearly teaches adding this  
8 to molded compositions, including polyester compositions.

9 So that would give the Examiner sufficient basis for showing that you  
10 could combine these references.

11 MR. AMERNICK: You could, but you would necessarily know  
12 whether or not it's compatible. If people --

13 JUDGE GUEST: Isn't that a teaching that it is compatible?

14 MR. AMERNICK: Well, it says you can put -- it's a very generalized  
15 statement. What the experience has been with respect to the polyesters and  
16 the molding compositions is that the dendrimers -- this is mentioned in our  
17 specification on page 1 -- have a problem of compatibility and solubility in  
18 polyesters.

19 So there's this negative teaching there, I believe, that you --

20 JUDGE GUEST: That's in your spec, right?

21 MR. AMERNICK: Yes, it's in our specification. It starts at page 1,  
22 line 29, and talks about the dendritic polymers, what they are, and what is  
23 their downfall in the prior art.

24 So the cost to Brenner materials are closely akin to those. People  
25 skilled in the art would shy away from believing that there was

1 compatibility. There's no indication that you would not adversely affect  
2 mechanical properties to a detrimental amount there.

3 JUDGE GUEST: The spec then seems to be contradicting what's in  
4 the reference. It says you can combine this.

5 MR. AMERNICK: True, but it's a very general statement. It's not as  
6 if Brenner, you know, earmarked and specifically said, okay, polyesters is  
7 what we're all about here. It's just mentioned in conjunction with a lot of  
8 other things.

9 It's one of those paragraphs where you're saying we can do this, we  
10 can do that, we can do a lot of things. Certainly, there's nothing in there  
11 where they actually did any of that.

12 Then you have to worry about how much are they talking about? Are  
13 they talking about adding polyesters to the materials in Brenner where you're  
14 adding a little bit of polyester, or are you adding a little bit of the materials  
15 of Brenner to polyester?

16 We also have these relative amounts that need to be observed. Again,  
17 in order to get the combination characteristics that we're talking about.  
18 I mention one other thing, the main point in the Examiner's answer for  
19 motivation for making these combinations was -- it's a statement on page 5,  
20 lines 6 and 7 of the answer. It says: "They are combinable because they're  
21 concerned with the same field of endeavor, namely thermoplastics."

22 My own view of that -- again, this is my own opinion, that's too broad  
23 of a brush for the same field of endeavor. Just because they're thermoplastic  
24 polymers, that's a pretty, pretty broad statement.

1 I think when the case law talks about same field of endeavor, they're  
2 getting down to something more specific than that. In fact, that's my reading  
3 of the various cases.

4 JUDGE GUEST: He also points there to Column 1, lines 19 - 27,  
5 talking about good processability of flame retardant materials.

6 MR. AMERNICK: Which reference?

7 JUDGE GUEST: This is on page 5 of the Answer.

8 MR. AMERNICK: Okay.

9 JUDGE GUEST: The Examiner says: "One would have been  
10 motivated to make this combination in order to receive the benefit of  
11 controlling and changing the ease of processability of the flame retardant  
12 material."

13 The reference does talk about that it does provide excellent  
14 processability.

15 MR. AMERNICK: It does. The materials there do provide the  
16 processability.

17 JUDGE TIMM: But the material in Brenner, from what you said in  
18 your first argument, is not a hyper-branched --

19 MR. AMERNICK: Yeah, it's different. It's more akin -- getting back  
20 to what we said -- to the dendrimer-type of polymers.

21 JUDGE TIMM: So even if it had some benefit for the combination,  
22 you still wouldn't end up with your claimed invention?

23 MR. AMERNICK: Yeah, the concern would be because they're like  
24 the dendrimer polymers that with a thermoplastic polyester you're not going  
25 to have compatibility that you're going to need to have (a) maintaining the

1 mechanical properties; (b) prevent stuff from falling apart when you're doing  
2 the molding to prevent residue on the mold surface.

3 Those are things we speak about in the specification.

4 JUDGE TIMM: So I think one of the dispositive issues in this case is  
5 really what is meant by highly-branched or hyper-branched polycarbonate in  
6 your claim.

7 Because if Brenner isn't one of those polymers --

8 MR. AMERNICK: Right, and even if you look at two things -- forget  
9 the publications we refer to because we don't have those in front of us. But  
10 looking at our method and discussing how these things are prepared, which  
11 is somewhat consistent with Dvornik's method of preparing materials.  
12 You're starting out and you're only using monomeric materials, certain  
13 conditions certainly of the relative amounts, what types of monomeric  
14 materials, polymerization conditions -- you're not using branching materials  
15 that are relatively high molecular weight as they're carried out and required  
16 in Brenner.

17 JUDGE TIMM: The question is: is your specification specific enough  
18 to sort of weed out these dendritic polymers?

19 MR. AMERNICK: I believe it is. The reason I say that is we  
20 specifically -- right at the beginning specifically mentioned -- we had  
21 problems with these dendrimer polymers.

22 What we're talking about is what the art appreciates as highly-  
23 branched or hyper-branched particular polymers. Then we go into not only  
24 how we make them, because that might leave something open; but we  
25 mention other prior publications that are in the art that distinguish.

1 We say this is how they distinguish the highly branched or hyper  
2 branched from the dendrimers.

3 JUDGE TIMM: When you refer to, for instance, the Patent 9,745,474  
4 is a polyester, an AB2 molecule, which is more akin to the second B 2  
5 polyester of the claim, is that correct?

6 MR. AMERNICK: Which?

7 JUDGE TIMM: It's on the specification, page 2, line 15 and refers to  
8 World Patent --

9 MR. AMERNICK: Correct, that's a dendrimer-type of polyester,  
10 which is different from the polyester. When you get into the polyester  
11 aspect, different from what we have here.

12 JUDGE TIMM: Right, your claim also encompasses these highly-  
13 branched or hyper-branched polycarbonates.

14 MR. AMERNICK: Correct.

15 JUDGE TIMM: The question is does that distinguish from the  
16 Brenner reference, which is also a polycarbonate?

17 MR. AMERNICK: Right, that reference to the WO on that page, I  
18 would say really -- I haven't read the whole thing, but it seems to me it's the  
19 polyester.

20 JUDGE TIMM: Right.

21 MR. AMERNICK: It seems to me it's not the polycarbonate. What  
22 we would have to go to with respect to that would be -- I guess starting at  
23 page 8, and there may be other places, where we're talking about the highly-  
24 branched polycarbonates.

1           Then it says down at page 8, line 17 and following, it says see also  
2 Flourey, and it gives a reference, and Frey and gives another reference, for  
3 the definition of dendritic and hyper-branch polymers.

4           Then we do talk about other aspects of why they are different in the  
5 specification. The big difference being -- just looking at it from the broadest  
6 concept is the dendrimers are more or less spherical types of polymers, chain  
7 lengths equal.

8           Whereas in the hyper-branched or highly-branched, you're looking at  
9 unequal molecular structure, unequal chain lengths. Different molecular  
10 weights.

11          They talk about polydispersability both in the specification and what  
12 the prior art appreciates there.

13          JUDGE GUEST: I have a question about your spec. You have a  
14 definition for hyper-branched, and you have definitions for dendritic.

15          MR. AMERNICK: That's a tough one.

16          JUDGE GUEST: Hyper-branched is having a degree of branching of  
17 a certain amount, it looks like 10 to 99 percent as defined in a certain way.  
18 then the dendritic is defined as having the same degree of branching defined  
19 in the same way from 99.9 percent to 100 percent.

20          I don't find in your spec anywhere a definition for highly branched.

21          MR. AMERNICK: There's some discussion of highly branched.

22          JUDGE GUEST: Can you point me to that?

23          MR. AMERNICK: Sure, page 11, for example. Starting at line 30  
24 mentions certain characteristics, what the end groups are. Then starting at  
25 the next paragraph it talks about -- it says highly functional, highly

1 branched. Mentions the number of functional groups, what those functional  
2 groups are.

3 Then following that there's a discussion of how they're prepared. I  
4 believe there's a similar parallel discussion in the specification when we  
5 come to the polyester part -- the other alternative.

6 JUDGE TIMM: Your claim doesn't require a highly functional,  
7 highly- branched polycarbonate. It only requires a highly-branched  
8 polycarbonate.

9 So is there something within that discussion that's specific to highly  
10 branched that would distinguish over these dendritic polymers?

11 MR. AMERNICK: I would suggest that if you read that in  
12 conjunction with the specification, one would understand that that's what's  
13 being discussed.

14 JUDGE TIMM: I think we understand your position.

15 MR. AMERNICK: I'm finished.

16 JUDGE TIMM: We're way out of time.

17 MR. AMERNICK: I'm sorry.

18 JUDGE TIMM: That's okay, we wanted to discuss the issues.

19 Did you have any questions, Judge Franklin?

20 JUDGE FRANKLIN: No more questions.

21 MR. AMERNICK: Thank you, Your Honors, I appreciate the time.

22 (Whereupon, the proceedings at 4:01 p.m. were concluded.)

23



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| 11/996,489      | 01/22/2008  | Andreas Eipper       | 12810-00608-US      | 7450             |

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CONNOLLY BOVE LODGE & HUTZ, LLP  
P O BOX 2207  
WILMINGTON, DE 19899

EXAMINER

GULAKOWSKI, RANDY P

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Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ANDREAS EIPPER, BERND BRUCHMANN,  
CARSTEN WEISS, MARK VOLKEL, KURT HOFLLI, and  
CHRISTOPHE GINSS

---

Appeal 2011-001806  
Application 11/996,489  
Technology Center 1700

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Before CATHERINE Q. TIMM, BEVERLY A. FRANKLIN, and  
RAE LYNN P. GUEST, *Administrative Patent Judges*.

GUEST, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision to reject claims 1-20 under 35 U.S.C. § 103(a) as unpatentable over Avery (US 4,212,791; issued July 15, 1980) in view of Omatsu (US 4,935,488; issued June 19, 1990). We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held January 12, 2012.<sup>1</sup>

---

<sup>1</sup> We refer to the transcript of the oral hearing herein as "Transcript."

We AFFIRM.

Appellants' invention relates to a molding composition comprising a thermoplastic polymer, a highly branched or hyperbranched polycarbonate or polyester, a thermoplastic polyester elastomer, and other additives (Spec. 1:5-17). The molding composition has good flowability characteristics and mechanical properties and does not exude or form mold deposits (Spec. 2:32-35). Claim 1 is illustrative:

1. A thermoplastic molding composition, comprising

A) from 10 to 98.9% by weight of at least one thermoplastic polyester,

B) from 0.01 to 50% by weight of

B1) at least one highly branched or hyperbranched polycarbonate with an OH number of from 1 to 600 mg KOH/g of polycarbonate (to DIN 53240, Part 2), or

B2) at least one highly branched or hyperbranched polyester of  $A_xB_y$  type, where  $x$  is at least 1.1 and  $y$  is at least 2.1,

or a mixture of these,

C) from 0.1 to 40% by weight of a thermoplastic polyester elastomer,

D) from 0 to 60% by weight of other additives,

where the total of the percentages by weight of components A) to D) is 100%.

Appellants have not argued any particular claim on appeal separately for any of the other claims (*see* App. Br. 3-7). Accordingly, all the appealed claims stand or fall together with representative claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## II. DISPOSITIVE ISSUE

The dispositive issue on appeal arising from the contentions of Appellants and the Examiner is: does the evidence support the Appellants' view that the Examiner erred in concluding that the claimed molding composition having a highly branched or hyperbranched polyester of  $A_xB_y$  type, where  $x$  is at least 1.1 and  $y$  is at least 2.1, would have been obvious to one of ordinary skill in the art based on the teachings of Avery and Omatsu? We answer this question in the negative.

## III. DISCUSSION

We adopt the Examiner's findings in the Answer as our own and add any additional findings of fact appearing below for emphasis.

Appellants contend that "there is no description or indication in Omatsu of a *highly branched or hyperbranched polyester* of  $A_xB_y$  type, where  $x$  is at least 1.1 and  $y$  is at least 2.1" and that Omatsu describes polyesters with only OH functions at the end of the chain, the disadvantages of which are discussed on pages 1-2 of Appellants' Specification (App. Br. 5). Appellants' attorney elaborated on this position in the oral hearing in stating that "it's our viewpoint that a skilled artisan knows that hyperbranched are specific materials, and we discuss this in the Specification" (Transcript 3:11-13). Specifically, Appellants' attorney identifies the invention based on structure, including a focal point with hyperbranching material spreading out from the center but not interconnected between the branches (Transcript 3: 14-19). As evidence, Appellants' attorney points to page 12, lines 18-20 of the Specification, describing adjusting the relative ratios of the compounds (Transcript 4:16-5:1).

We are not persuaded that Appellants' Specification has sufficiently defined a "highly branched or hyperbranched polyester" to distinguish over the polyester taught by Omatsu.

During examination, "claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)).

Appellants' Specification differentiates between "[d]endritic polymers having a perfectly symmetrical structure, known as dendrimers" and "highly branched or hyperbranched polymers" that "have linear polymer chains and unequal polymer branches" only in terms of symmetry of their structure and ease of manufacture (Spec. 1:27-2:8, 18:19-27, and 19:27-30).

Appellants' Specification describes that "hyperbranched polymers" can be prepared in two ways, namely as AB<sub>2</sub> type, i.e., using a trifunctional monomer having one reactive group A for each two reactive groups B, and as A<sub>x</sub>+B<sub>y</sub> type, i.e., the reaction of a difunctional monomer with a trifunctional monomer (Spec. 2:9-18). Appellants' Specification describes problems known to occur with "dendrimeric AB<sub>2</sub> type polyester," in which a polyhydric alcohol reacts with dimethylolpropionic acid, and with "the incorporation of branching agents of this type by means of compounding and solid-phase post-condensation" processes (Spec. 2:20-32). However, Appellants' Specification identifies these polymers as "dendrimeric" and not "highly branched or hyperbranched polymers." In other words, they have a perfectly symmetrical structure.

While the Examiner's rejection is directed toward the B2) component of claim 1, i.e., the polyester, the portion of Appellants' Specification cited by Appellants' attorney is directed to a process for preparing polycarbonates, i.e., component B1) (Spec. 12:18-27). Rather, Appellants' Specification teaches a preferred process for obtaining the polyester of component B2), involving reacting dicarboxylic acids with trihydric alcohols or tricarboxylic acids with diols (Spec. 19:12-25).

As pointed out by the Examiner (Ans. 20), claim 14 recites only the use of "highly branched or hyperbranched polyesters of  $A_xB_y$  type, where  $x$  is at least 1.1 and  $y$  is at least 2.1." The Specification merely defines an  $A_xB_y$  type polyester by the molecules reacted to form the polyester and, thus, defines the polyester only by the functionalities of the components used to produce the polyester. The reaction need not occur by any particular process. While we read the claims in light of the Specification to determine what one of ordinary skill in the art would consider the broadest reasonable interpretation, "limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). "It is the applicants' burden to precisely define the invention, not the PTO's." *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997).

We agree with the Examiner (Ans. 6), that Omatsu discloses reacting the same dicarboxylic acids and the same trihydric alcohols as those taught by the invention, which is the only characteristic used to define an  $A_xB_y$  type polyester (Omatu, col. 9, ll. 3-32; Spec. 19:33-38 and 21:10-16). Thus, it is reasonable to conclude, without evidence to the contrary, that Omatsu teaches the same highly branched or hyperbranched polyesters claimed. Appellants present no evidence to demonstrate that the polyesters taught by

Omatsu have a perfectly symmetrical structure so as to be characterized as a “dendritic polymer” rather than the non-symmetrical structure of a “highly branched or hyperbranched polymer.”

Appellants also contend that the Examiner has not articulated a reason that one skilled in the art would have been led to modify or combine Avery with Omatsu to achieve the claimed invention (App. Br. 6; Transcript 5:6-8).

The Examiner relies on the abstract of Omatsu as stating that the trimethylolheptanes are “useful as raw material for the production of polyesters for use in a variety of applications, including molding resins” (Ans. 4). The Examiner thus concludes that one of ordinary skill in the art would have substituted the polyester composition of Omatsu for the polyester oligomer of the composition of Avery to yield a composition having increased flexibility and low-temperature resistance, citing col. 3, lines 44-47 on Omatsu (Ans. 5). We find the Examiner has provided a sufficient rationale based on the teachings of the prior art as to why one skilled in the art would have arrived at the claimed invention.

Appellants suggest that the abstract is focused on the use of trimethylolheptanes and not the polyester made therefrom (Transcript, 5:9-23). We disagree with Appellants’ interpretation of Omatsu’s abstract. The abstract states that the trimethylolheptanes “are useful as raw materials for the production of polyesters for use in or as raw materials or modifiers for paints, inks, adhesives, coating compositions and molding resins. Uses for the trimethylolheptanes are also provided” (Omatsu, Abstract). We understand the first sentence to refer to uses for the polyesters and the second sentence to refer to uses for trimethylolheptanes. Our understanding

is supported by the background section of Omatsu which teaches the wide use of polyester resins as molding materials (Omatsu, col. 1, ll. 41-44).

The weight of the evidence taken as a whole supports the Examiner's conclusion of obviousness under the law.

#### IV. CONCLUSION

On the record before us, we sustain the rejection maintained by the Examiner.

#### V. DECISION

The decision of the Examiner is AFFIRMED.

#### VI. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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Andreas Eipper

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CONNOLLY BOVE LODGE & HUTZ, LLP  
P O BOX 2207  
WILMINGTON, DE 19899

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1                                   RECORD OF ORAL HEARING  
2                                   UNITED STATES PATENT AND TRADEMARK OFFICE

3  
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5                                   BEFORE THE BOARD OF PATENT APPEALS  
6                                   AND INTERFERENCES

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9                   *Ex parte* ANDREAS EIPPER, BERND BRUCHMANN, CARSTEN  
10                  WEISS, MARK VOLKEL, KURT HOFLI, and CHRISTOPHE GINSS

11  
12  
13                                  Appeal No. 2011-001806  
14                                  Application No. 11/996,489  
15                                  Technology Center 1700

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17  
18                                  Oral Hearing Held: January 12, 2012

19  
20  
21                  Before CATHERINE TIMM, BEVERLY A. FRANKLIN (video) and RAE  
22                  LYNN P. GUEST, *Administrative Patent Judges*.

23  
24                  APPEARANCES:

25  
26                  ON BEHALF OF THE APPELLANT:

27  
28                                  GEORG M. HASSELMANN, ESQUIRE  
29                                  Connolly, Bove, Lodge & Hutz, LLP  
30                                  1875 Eye Street, N.W.  
31                                  Suite 1100  
32                                  Washington, D.C. 20006  
33                                  (202) 331-7111

34  
35                                  The above-entitled matter came on for hearing on Thursday, January  
36                                  12, 2012, commencing at 4:02 p.m., at the U.S. Patent and Trademark  
37                                  Office, 600 Dulany Street, Alexandria, Virginia, before Paula Lowery,  
38                                  Notary Public.

PROCEEDINGS

JUDGE TIMM: Whenever you're ready, you have 20 minutes.

MR. HASSELMANN: May it please the Board, thank you Your Honors.

I just want to give a very brief overview of the subject matter. It's molding materials that have three mandatory components.

It's a thermoplastic polyester with component A, a thermoplastic polyester elastomer, Component C; and then either or both of the highly-branched or hyper-branched polycarbonate, or a highly-branched or hyper-branched polyester.

It's very useful as molding materials. Obviously, they have advantages over the prior art in that they have an increased moldability in the molding process and for these particular kinds they do not exude after the molding has been prepared. They also have a tendency not to foam because it's in the mold.

I have one preliminary matter. In the Examiner's answer at page 3, the Examiner at the bottom of the page is referring to the Avery reference and the Patent Number 421791 and Omatsu 4,932,488. The correct numbers are actually in Section 8 in evidence relied upon.

Those are the two patents I will be referring to.

JUDGE TIMM: Very good.

MR. HASSELMANN: I think our main argument, as appreciated by the Examiner, Avery doesn't teach the highly-branched or hyper-branched

1 polyesters. He's using the secondary reference to Omatsu for teaching these  
2 features.

3 It's our viewpoint that Omatsu does not teach highly-branched or  
4 hyper-branched polyesters. There was some discussion in the record and I  
5 would like to refer to nonpatent literature that has been cited in the  
6 information disclosure statement on October 27, 2008.

7 JUDGE TIMM: Have you referred to this in your Brief?

8 MR. HASSELMANN: No, we have not, Your Honor.

9 JUDGE TIMM: No?

10 MR. HASSELMANN: I brought copies.

11 JUDGE TIMM: It's not appropriate for you to discuss that since the  
12 Examiner hasn't had a chance to address that.

13 MR. HASSELMANN: Okay. Again, it's our viewpoint that a skilled  
14 artisan knows that hyper-branched are specific materials, and we discuss this  
15 in the specification.

16 Most of our materials have the focal point so the hyper-branched  
17 materials are prepared starting from one center, and then they branch out in  
18 instances. So a very new and functional group spreads out again; but you  
19 still have only one center.

20 One characteristic is that they don't -- they're never interconnected  
21 between the branches.

22 JUDGE TIMM: So you have the same definitions in this specification  
23 as in the other where hyper-branched refers to the degree of branching.

24 MR. HASSELMANN: Yes.

25 JUDGE TIMM: Okay.

1 JUDGE GUEST: The Examiner has pointed to Omatsu that teaches  
2 manufacturing these hyper-branched polyesters with the same tri-functional  
3 alcohols and di-functional acids that are used in your spec to prepare  
4 polyesters. That's where he gets the impetus to say they would be the same.

5 MR. HASSELMANN: Um-hum.

6 JUDGE GUEST: If you're using the same branching materials, you  
7 would get the same type of branching?

8 MR. HASSELMANN: It's a little unfortunate that I can't -- there's a  
9 citation within the article that's to the exact point.

10 It's our position that what was known at the time the invention was  
11 made. Hyper-branch polymers were known in the art. You need some very  
12 defined conditions to obtain these.

13 Just having the same starting materials does not necessary -- the  
14 article talks about conventional branched and hyper-branched.

15 It also talks about if you're just using the known polymers that you  
16 don't get the dendrimers and the conditions.

17 JUDGE TIMM: Those conditions are discussed in your specification?

18 MR. HASSELMANN: One thing you have to adjust the relative  
19 ratios. Having a diluted solution helps in this direction so that the one  
20 molecule has a chance to grow in all directions versus being caught by  
21 another growing branch and you would have these things -- can you give me  
22 a half minute to see if I can find something?

23 (Pause in proceedings.)

1 MR. HASSELMANN: On page 12, lines 18-20: "When preparing  
2 the highly functional polycarbonates it is necessary to adjust the ratio of the  
3 compounds in such a way that the" –

4 So you need the content of the relative amounts and heat conditions  
5 under which you prepare them.

6 JUDGE GUEST: It's your position that the Omatsu reference doesn't  
7 do that adjustment?

8 MR. HASSELMANN: That's right. He's just condensating, so he has  
9 what's known in the art as the conventionally branched polymers.

10 Another point, it's our contention that even if the Omatsu reference  
11 were to teach hyper-branched polyesters, we don't think a skilled artisan is  
12 directed at combining this citation with the primary Avery.

13 The Examiner is relying on the abstract for teaching that what he  
14 considers to be highly-branched polyesters as being useful in moldings. I  
15 found the abstract confusing because what they're really talking about is the  
16 trimethyl heptanes -- it's the compound of Claim 3 -- in Omatsu. That's  
17 a derivative in Claim 19 (c).

18 If you go to the summary of invention in Column 4 of Omatsu, he  
19 talks about various aspects. One aspect is really to prepare these at that time  
20 novel trimethyl heptanes which have a variety of uses.

21 The next paragraph has another one, the third paragraph starting at  
22 line 21 talks about the polyesters that can be prepared from these trimethyl  
23 heptanes. They're indicated as being useful for coating resins and for  
24 coatings.

1           So the way I understand the abstract, these trimethyl heptanes are used  
2   for a variety of purposes. One of them is the molding resins. Another one is  
3   the polyesters.

4           He uses moldings -- it appears five times in the disclosure of Omatsu  
5   in the abstract. Then in the discussion of the prior art at Column 1, Line 43  
6   they talk generically about polyester resins that are used for moldings.

7           I don't think this necessarily refers to the polyester moldings of  
8   Omatsu.

9           Then he uses moldings three more times. This is at Column 13 and  
10   14, Lines 47, 48, and Column 14, Line 63, respectively. But this doesn't talk  
11   about the polyesters that can be prepared. These are trimethyl acrylates, the  
12   structure of which is shown in Column 2, Formula 1.

13          JUDGE GUEST: Where are you referencing?

14          MR. HASSELMANN: He talks about moldings three more times.  
15   This is Column 13, Lines 47-48; as well as Column 14, Line 63.

16          In each of these instances he talks about the trimethyl acrylates, at  
17   Column 12, Formula 1. In there, there are esters because of the reaction of  
18   the triol with the acrylic acid; but there's no more alcohol or acid  
19   functionality in those molecules. So you can't make a polyester out of these  
20   compounds because the required functional group for ester, alcohol or acid  
21   is not present any more. He uses these for curing resins because they have  
22   the double bond that can be radically cured in these compositions.

23          So our contention is, yes, he does talk about polyesters, but those  
24   aren't in any way related to the molding compositions. Just from the

1 disclosure, I mean maybe a skilled artisan would be motivated to try the  
2 trimethyl acrylate in a molding composition, I don't know.

3 I don't see how they would end up with these to replace the polyesters  
4 in the primary reference.

5 JUDGE GUEST: The primary reference does talk about the addition  
6 of oligomeric polyester as an additional component to polyalkylene  
7 terephthalate.

8 The Examiner also seems to say that that would be the substitution.  
9 So there is motivation to add to a molding composition found within the  
10 Avery reference itself in the fact that Avery includes an additional polyester  
11 component.

12 MR. HASSELMANN: Can you point me -- is this in the office  
13 action?

14 JUDGE GUEST: Yes, page 5 of the answer.

15 The Examiner says: "It would have been obvious [to combine --] to  
16 have one of ordinary skill in the art to have used the branched polyester  
17 compositions taught by Omatsu as the polyester oligomer of the composition  
18 taught by Avery."

19 It says "to yield a composition with a molded article thereof having  
20 increased flexibility and low temperature resistance as taught by the Omatsu  
21 reference."

22 MR. HASSELMANN: Um-hum.

23 JUDGE GUEST: So the Examiner is saying the Avery reference  
24 teaches an additional polyester element, and that one of ordinary skill in the  
25 art would look to polyester elements --

1 MR. HASSELMANN: But the Examiner acknowledges that the one  
2 in Avery are not hyper-branched --

3 JUDGE GUEST: Right. But there is an indication in Avery that you  
4 would add an additional polyester to the Avery composition.

5 MR. HASSELMANN: To replace one that's present in Avery?

6 JUDGE TIMM: Or is it that you add another one?

7 JUDGE GUEST: "... as the oligomer polyester taught by Avery," so  
8 it's a substitution.

9 MR. HASSELMANN: Well, if we can briefly go to the Avery  
10 reference, it talks at Column 1, Lines 27-34, it talks of the various attempts  
11 to improve the crystallization rate. So he talks about the polyethylene oxides  
12 which they used as additives. So even though a skilled artisan had expected  
13 they would improve the functionality, it turned out that they have  
14 undesirable properties. I think from Avery -- you have to jump to Omatsu  
15 and then bring those back.

16 I think from this passage you learn that you don't necessarily add or  
17 make any substitution and maintain the properties so you can have undesired  
18 side effects even if you have polymers that are indicated as being useful.

19 Also at Column 4, Lines 10-15, it talks that just the addition of one  
20 component, the polyester elastomers, it doesn't have the desired  
21 improvement in properties. So he's basing the effects in this reference of the  
22 combination of the elastomer with the polymeric polyester and --

23 At least it talks about the unpredictability in the art. You cannot  
24 merely add one component and hope to have improved properties. Even



1 more so since the oligomeric polyester and the agents are indicated as being  
2 critical to the invention.

3 I would argue it would render the invention Avery unsuitable for its  
4 intended purpose because you've taken out a component that he describes as  
5 being critical for the invention.

6 There's an additional point I'd like to make.

7 JUDGE TIMM: Okay.

8 MR. HASSELMANN: There's two hyper-branched polymers that are  
9 discussed with the polycarbonates and polyesters that can be used as an  
10 alternative.

11 The Examiner acknowledges that there's no reference on the record  
12 that teaches the hyper-branched polycarbonates. He says he doesn't need it  
13 for the independent claim, but we'd like to submit, for example, it's rejected.  
14 Clearly the polycarbonate and the rejection as such is deficient because --

15 JUDGE GUEST: Do you present an argument with respect to Claim  
16 4 separately in your Brief?

17 MR. HASSELMANN: No, ma'am.

18 JUDGE TIMM: Then we can't consider that argument.

19 MR. HASSELMANN: Okay, it's withdrawn.

20 JUDGE TIMM: Anything else?

21 MR. HASSELMANN: That's all I have. Do you have any questions?

22 JUDGE TIMM: Any questions, Judge Franklin?

23 JUDGE FRANKLIN: No more questions.

24 JUDGE GUEST: I have no questions.

25 JUDGE TIMM: I think we understand the issues in the case.

1 MR. HASSELMANN: Thank you very much, Your Honors.  
2 (Whereupon, the proceedings at 4:20 p.m. were concluded.)  
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